

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	For:	OVERLOAD DETECTION IN A
	)		WIRELESS COMMUNICATION
Rashid A. ATTAR	)		SYSTEM
)		
	)	Examiner:	Marisol Figueroa
)		
Serial No. 10/728,035	)	Group No.	2617
)		
Filed: December 3, 2003	)	Confirm No.	9426

APPELLANT'S BRIEF

Commissioner for Patents
Mail Stop: Appeal Brief Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby files its brief on appeal under 37 CFR §1.192. A Notice of Appeal was filed in the above-reference application on January 15, 2009.

I. REAL PARTY IN INTEREST

The real party in interest is Qualcomm, Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-16 and 18-46 are the subject of this appeal, claim 17 having been previously canceled.

Claims 1, 11, 13, 14, 21, 29, 31, 33, 39, 40, 43, and 44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi et al.* (U.S. Pat. No. 6,405,045), hereinafter "*Choi*", in views of *Lee* (U.S. Pat. App. No. 2004/0165529).

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Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in view of *Lee, Bender* (U.S. Pat. App. No. 2002/0155852), and *Kim et al.* (U.S. Pat. No. 6,456,850), hereinafter referred to as "*Kim*."

Claims 6 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Ghandi, et al.* (U.S. Pat. App. No. 6,944,449), hereinafter referred to as "*Ghandi*," and *Gehi et al.* (U.S. Pat. No. 6,134,216), hereinafter referred to as "*Gehi*."

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in view of *Lee* and *Andersson* (U.S. Pat. No. 5,697,054).

Claim 34 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Andersson* and *Jang et al.* (U.S. Pub. No. 2002/0173316), hereinafter referred to as "*Jang*."

Claim 37 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Andersson, Gandhi, and Laakso* (U.S. Pub. No. 2003/0003921).

Claim 38 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Gandhi, Andersson, Laakso, and Padovani* (U.S. Pat. App. No. 6,442,398).

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee* and *Padovani*.

Claims 2, 3, 22, and 45-46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee* and *Gandhi*.

Claims 4, 5, 24, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Gandhi and Lee* (U.S. Pub. No. 2003/0125068 A1), hereinafter *Lee '068*.

Claims 7-9 and 26-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi*, in views of *Lee* and *Laakso*.

Claims 12 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee*, and *Volfsun et al.* (U.S. Pat. App. No. 6,707,792), hereinafter referred to as "*Volfsun*."

Claims 15 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Gandhi, and Laakso*.

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Claims 16 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Gandhi, Laakso* and *Padovani*.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee* and *Bender*.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee, Bender, Kim* and *Katoh, et al.* (U.S. Pat. App. No. 5,949,757), hereinafter referred to as "*Katoh*."

Claims 41 and 42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi* in views of *Lee* and *Lin, et al.* (U.S. Pat. App. No. 5,917,806), hereinafter referred to as "*Lin*."

IV. STATUS OF AMENDMENTS

There are no pending amendments in the present application.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In any wireless communications system, problems can occur when too many wireless communication devices are attempting to communicate with the same base station. A condition can be reached whereby the base station simply cannot accommodate the number of wireless communication devices attempting to access its resources. This condition is commonly referred to as overload. Overload can occur for a variety of reasons. Typically, overload occurs when one or more parameters are pronounced enough to result in placement of a "load" on the base station that, if sufficiently large, can effectively rob the base station of resources it needs to manage the ongoing communications.

In addition, depending on the causes of overload, different degrees of overload can occur. For example, in some cases an overload condition will be severe enough to immediately cause the termination of most or all communications between the base station and the wireless communication devices. In other cases, an overload condition initially begins with a minimal influence on the wireless communications system. In the latter type of situation, a need exists for early detection of the overload condition so that appropriate remedial measures may be taken as necessary to prevent an ensuing severe overload that would otherwise cause noticeable degradations in system performance.

The claimed subject matter, as defined by the claims reproduced in the attached Appendix, is directed towards various methods, systems, and/or apparatus to reduce a load on a base station when an overload condition is detected. The claimed subject matter provides an improvement over conventional approaches by providing dynamic control of the load reduction as well as load reduction based on severity. As a result, overload conditions may be detected at the right instance and not prematurely such as in situations where actual overload does not yet exist, or, conversely, not fail to detect overload until the condition is severe--avoiding unnecessary communication failures between wireless communications devices and the base station.

In one aspect of the overload control detection and control, an overload detection processor is used to monitor one or more parameters depending on the particular communications application and the overall design constraints of the system. FIG. 2 of Applicant's Specification depicts an overload detection processor 204. In at least one aspect, the overload detection processor 204 monitors the following: (i) Rise-Over-Thermal (ROT), (ii) MAC channel power constraints, (iii) processing resources in the base station, and (iv) the number of subscriber stations supported by the base station. Para. [0047]. The overload detection processor 224 may also be configured to detect the severity of the overload, and overload control and remedial procedures. Para. [0047]. The remedial procedures may be designed to adapt to the following: (i) the severity or degree of the overload, (ii) the persistence of the overload - e.g., the continuous return of the specific overload triggers, and (iii) the type of overload. Para. [0047].

By distinguishing between different types and degrees of overload, the overload detection processor 204 can use a different remedial approach that is specific to or most suitable for the type of overload condition detected. The remedial procedure should minimize the degradation in performance of the communications system to cause the least amount of disturbance possible to a given user of a subscriber station. Para. [0048]. The remedial procedure may be a function of any of the following: (i) the type of application being run over the system (e.g., internet application, voice conversation, video on demand, FTP download, etc.), (ii) the overload trigger or type, (iii) the overload degree or severity, (iv) the persistence of the overload condition, and (v) the QoS rules. Para. [0048]. The QoS rules are a set of rules that relate to various

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applications and that assign different priorities to different actions, with the goal of achieving the best possible user experience under the circumstances. Para. [0048].

VI. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

The issues presented for review on appeal are:

1. Whether claims 1, 11, 13, 14, 21, 29, 31, 33, 39, 40, 43, and 44 are unpatentable under 35 U.S.C. §103(a) over *Choi et al.* (U.S. Pat. No. 6,405,045), hereinafter "*Choi*", in view of *Lee* (U.S. Pat. App. No. 2004/0165529).

2. Whether claim 19 stands rejected under 35 U.S.C. §103(a) over *Choi* in view of *Lee, Bender* (U.S. Pat. App. No. 2002/0155852), and *Kim et al.* (U.S. Pat. No. 6,456,850), hereinafter referred to as "*Kim*."

3. Whether claims 6 and 23 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee, Ghandi, et al.* (U.S. Pat. App. No. 6,944,449), hereinafter referred to as "*Ghandi*," and *Gehi et al.* (U.S. Pat. No. 6,134,216), hereinafter referred to as "*Gehi*."

4. Whether claim 32 stands rejected under 35 U.S.C. §103(a) over *Choi* in view of *Lee* and *Andersson* (U.S. Pat. No. 5,697,054).

5. Whether claim 34 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee, Andersson* and *Jang et al.* (U.S. Pub. No. 2002/0173316), hereinafter referred to as "*Jang*."

6. Whether claim 37 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee, Anderson, Gandhi, and Laakso* (U.S. Pub. No. 2003/0003921 A1).

7. Whether claim 38 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee, Gandhi, Andersson, Laakso, and Padovani* (U.S. Pat. App. No. 6,442,398).

8. Whether claim 10 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee* and *Padovani*.

9. Whether claims 2, 3, 22, and 45-46 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee* and *Gandhi*.

10. Whether claims 4, 5, 24, and 25 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee, Gandhi and Lee* (U.S. Pub. No. 2003/0125068 A1), hereinafter *Lee '068*.

11. Whether claims 7-9 and 26-28 are unpatentable under 35 U.S.C. §103(a) over *Choi*, in views of *Lee* and *Laakso*.

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12. Whether claims 12 and 30 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee*, and *Volfsun et al.* (U.S. Pat. App. No. 6,707,792 B1), hereinafter referred to as "*Volfsun*."

13. Whether claims 15 and 35 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee*, *Gandhi*, and *Laakso*.

14. Whether claims 16 and 36 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee*, *Gandhi*, *Laakso* and *Padovani*.

15. Whether claim 18 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee* and *Bender*.

16. Whether claim 20 stands rejected under 35 U.S.C. §103(a) over *Choi* in views of *Lee*, *Bender*, *Kim* and *Katoh, et al.* (U.S. Pat. App. No. 5,949,757), hereinafter referred to as "*Katoh*."

17. Whether claims 41 and 42 are unpatentable under 35 U.S.C. §103(a) over *Choi* in views of *Lee* and *Lin, et al.* (U.S. Pat. App. No. 5,917,806), hereinafter referred to as "*Lin*."

VII. GROUPING OF CLAIMS

Claims 1, 21, and 39 stand or fall together.

Claims 6, and 23 stand or fall together.

Claims 11, and 29 stand or fall together.

Each of claims 19, 32, 34, 37 and 40 stands or falls on its own.

VIII. ARGUMENT

A. The rejection of claims 1, 21, and 39 is improper because a prima facie case of obviousness has not been established.

Claims 1, 21, and 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Choi et al.* (U.S. Pat. No. 6,405,045), hereinafter "*Choi*", in views of *Lee* (U.S. Pat. App. No. 2004/0165529).

The factual inquiries that are relevant in the determination of obviousness are determining the scope and contents of the prior art, ascertaining the differences between the prior art and the claims in issue, resolving the level of ordinary skill in the art, and evaluating evidence of

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secondary consideration. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. ___, 2007 U.S. LEXIS 4745, at **4-5 (2007) (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)). To establish a prima facie case of obviousness, the prior art references "must teach or suggest all the claim limitations." M.P.E.P. §2142. Moreover, the analysis in support of an obviousness rejection "should be made explicit." *KSR*, 2007 U.S. LEXIS 4745, at **37. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

1. The combination of Chou with Lee does not yield the claimed invention.

Claim 1 recites a communication apparatus for a base station. The apparatus comprises a means for detecting various overloads caused on the base station, and a means for implementing a set of control mechanisms to reduce the load. Claim 1 also recites: "wherein the control mechanism used to reduce the load on the base station is selected based on a plurality of types and a degree of the overload on the base station; and wherein each type is associated with at least one of the parameters." (Emphasis added.)

With respect to the above emphasized features, the Examiner cites Choi for the selection based on a plurality of types feature, and cites Lee for the selection based on the degree of the overload.

Claim 1 recites that "the control mechanism used to reduce the load on the base station is selected based on a plurality of types and a degree of the overload on the base station" (Emphasis added). Applicants respectfully submit that the cited references do not teach or suggest this claimed subject matter.

First, the above claims are distinguished from Choi in several ways. For example, Choi does not disclose a plurality of control mechanisms, wherein the control mechanism used to reduce the load on the station is selected based on a plurality of types; and wherein each type is associated with at least one of the parameters. Instead, in Choi, the only one type of problem controlled is that of a call request overload. In an Advisory Action dated December 12, 2008, the Examiner asserts that:

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Choi's abstract discloses "allocating an overload control process according to the thresholds", the thresholds determine [sic] the type of overload in the system and the control process to perform to alleviate the overload (see col. 3, line 59-col. 4, lines 1-11). Furthermore, the overload type is determined based on measured parameters and the comparison with the thresholds (see col. 4, lines 15-21). Therefore, Choi teaches the limitations of a plurality of control mechanisms, wherein the control mechanism used to reduce the load on the station is selected based on a plurality of types; and wherein each type is associated with at least one of the parameters.

December 12, 2008, Advisory Action, page 2. Applicants respectfully disagree.

Referencing the cited sections in Choi as well as FIG. 3, it is apparent that Choi only deals with call rejections when there is an overload condition. Specifically, Choi can reject various calls, whether they are incoming, outgoing, or handoff calls. See Choi, FIG. 3, and col. 3, line 59 to col. 4, line 21 (sections cited by Examiner). Choi does not handle a plurality of types such as those that may be caused due to lack of sufficient power, and rise over thermal condition, as recited, for example, in claim 45, but claimed in the rejected independent claims. In fact, Choi cites only one "overload detect value Y1". See Choi, col. 4, lines 22-52. This is clearly very different than the features disclosed in above claims.

Further, the Examiner has acknowledged that "Choi does not particularly disclose selecting a control mechanism to reduce the load on the base station based a degree of the overload." September 15, 2008, Office Action, page 4.

However, the Examiner asserts that this subject matter is taught by Lee. In particular, the Examiner asserts the following:

Lee teaches selecting a control mechanism to reduce the load on the base station based on a degree of the overload (Lee teaches an overload control method that includes judging whether an access network (i.e., base station) is overloaded and restricting an originating call and a termination call (i.e., plurality of control mechanisms) according to a degree of the overload so that the overload control method can effectively cope with the overload situation (see abstract; p.0033-0036).

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September 15, 2008, Office Action, pages 4 (emphasis added). Applicants respectfully disagree.

Lee states that “[a]n overload control process can classify ... 24 classes of overload according to the overload degree.” Lee, paragraph [0052] (emphasis added). Thus, Lee explicitly indicates that a “class” refers to a “degree” of overload. However, the “degree” of overload is clearly not the same as the “type” of overload, as recited in claim 1. In fact, claim 1 recites “the control mechanism ... is selected based on the type and degree of the overload on the base station.” Thus, in claim 1, the terms “type” and “degree” do not mean the same thing.

Lee also states that “to release the overload judgment for the access network, a lowest overload control level (e.g., class ‘0’) should be continuously maintained for a selected time ...” Lee, paragraph [0054] (emphasis added). Thus, Lee indicates that a “class” corresponds to a “level” of overload control. However, a “level” of overload control is clearly not the same as the “type” of overload, as recited in claim 1.

Lee also states that “when the access network is overloaded, a call is discriminately restricted according to a degree of overload.” Lee, paragraph [0051] (emphasis added). Lee also states that “the processors ... can flexibly cope with the overload according to the degree of overload and interwork with each other.” *Id.*, paragraph [0067] (emphasis added). Lee also states that “the overload control is discriminately performed according to a degree of overload, so that the overload control method and apparatus can effectively cope with the overload situation and removal.” *Id.*, paragraph [0083] (emphasis added). Thus, although Lee repeatedly refers to “the degree of overload,” Lee makes absolutely no mention of the “type” of overload, as recited in claim 1. Lee clearly does not teach or suggest that “the control mechanism ... is selected based on the type ... of the overload on the base station,” as recited in claim 1.

In view of the foregoing, Applicants respectfully submit that claim 1 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 1 be withdrawn.

With regard to claim 21, claim 21 recites “a processor configured to ... reduce the load on the base station using a plurality of control mechanisms based on the type and degree of the load on the base station.” Applicants respectfully submit that the cited references do not teach or suggest the use of “control mechanisms based on the type ... of the load on the base station,” as recited in claim 21.

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The Examiner asserts that the subject matter at issue is taught by Lee. See Office Action, page 8. Applicants respectfully disagree. The Examiner cites a portion of Lee that refers to "classes of overload," and it appears that the Examiner is asserting that the term "class," as used by Lee, means the same thing as the term "type" recited in claim 21. However, as argued above, Lee explicitly indicates that a "class" refers to a "degree" of overload. See Lee, paragraph [0052] ("[a]n overload control process can classify ... 24 classes of overload according to the overload degree") (emphasis added). Because claim 21 refers to both "the type and degree of the load on the base station," it is clear that the terms "type" and "degree" do not mean the same thing in claim 21. Although Lee repeatedly refers to "the degree of overload," Lee makes absolutely no mention of the "type ... of the load on the base station." Lee clearly does not teach or suggest the use of "control mechanisms based on the type ... of the load on the base station," as recited in claim 21. Accordingly, Applicants respectfully submit that claim 21 is allowable, and request that the rejection of claim 21 be withdrawn.

Claims 22 and 33 depend from claim 21. Accordingly, Applicants respectfully request that the rejection of claims 22 and 33 be withdrawn for at least the same reasons as those presented above in relation to claim 21.

Claim 39 recites "reducing the load on the base station using a plurality of control mechanisms based on the type and degree of the load on the base station." Applicants respectfully submit that the cited references do not teach or suggest the use of "control mechanisms based on the type ... of the load on the base station," as recited in claim 39.

The Examiner asserts that the subject matter at issue is taught by Lee. See Office Action, page 12. Applicants respectfully disagree. The Examiner cites a portion of Lee that refers to "classes of overload," and it appears that the Examiner is asserting that the term "class," as used by Lee, means the same thing as the term "type" recited in claim 39. However, as argued above, Lee explicitly indicates that a "class" refers to a "degree" of overload. See Lee, paragraph [0052] ("[a]n overload control process can classify ... 24 classes of overload according to the overload degree") (emphasis added). Because claim 39 refers to both "the type and degree of the load on the base station," it is clear that the terms "type" and "degree" do not mean the same thing in claim 39. Although Lee repeatedly refers to "the degree of overload," Lee makes absolutely no mention of the "type ... of the load on the base station." Lee clearly does not teach or suggest the

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use of "control mechanisms based on the type ... of the load on the base station," as recited in claim 39. Accordingly, Applicants respectfully submit that claim 39 is allowable, and request that the rejection of claim 39 be withdrawn.

2. One of ordinary skill would not have been realistically motivated to modify Choi to include Lee.

There is no teaching, suggestion, or motivation to combine Choi with Lee. As such, the combination of above references appears to be "hindsight." Applicants therefore respectfully submit that the Examiner's conclusion of obviousness is based on improper hindsight reasoning.

3. Even if the combination of Choi and Lee were proper, it would not yield the claimed invention.

Second, the suggested combination of Choi and Lee does not lead to the apparatus of claim 1. Even if Choi and Lee were to be combined, the resulting combination would not be an apparatus wherein the control mechanism used to reduce the load on the station is selected based on a plurality of types. Instead, the resulting combination would only handle one type of overload--namely the call request overload and not any other types.

B. Whether claim 19 stands rejected under 35 U.S.C. §103(a) over Choi in view of Lee, Bender (U.S. Pat. App. No. 2002/0155852), and Kim et al. (U.S. Pat. No. 6,456,850), hereinafter referred to as "Kim."

Claim 19 includes the same limitations as cited for claim 1 with regard to Choi and Lee, and should be allowed for the reasons stated above. Further, claim 19 also recites that, once an overload condition has been determined, the control mechanisms comprises means for determining idle users; means for bumping service to idle users; means for determining high data users; and means for bumping service to high data users." These limitations are not shown nor suggested in Bender or Kim, either individually or combined.

Accordingly, Applicants respectfully submit that claim 19 is allowable, and request that the rejection of claim 19 be withdrawn.

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C. Whether claims 6 and 23 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee, Ghandi, et al. (U.S. Pat. App. No. 6,944,449), hereinafter referred to as "Ghandi," and Gehi et al. (U.S. Pat. No. 6,134,216), hereinafter referred to as "Gehi."

Claims 6 and 23 include the same limitations as cited for claim 1 with regard to Choi and Lee, and should be allowed for the reasons stated above. Further, claims 6 and 23 also recite "means for detecting a second degree overload as a result of the receiver stability estimate exceeding the threshold for a second period of time longer than a first period of time." These limitations are not shown nor suggested in Ghandi or Gehi, either individually or combined.

Accordingly, Applicants respectfully submits that claims 6 and 23 are allowable, and request that the rejection of claims 6 and 23 be withdrawn.

D. Whether claim 32 stands rejected under 35 U.S.C. §103(a) over Choi in view of Lee and Andersson (U.S. Pat. No. 5,697,054).

Claim 32 includes the same limitations as cited for claim 1 with regard to Choi and Lee, and should be allowed for the reasons stated above. Further, claim 32 also recites a second processor that, once an overload condition has been determined, "second processor is further configured to reduce the load on the base station using a plurality of control mechanisms based on the type and degree of the overload on the base station." These limitations are not shown nor suggested in Anderson.

Accordingly, Applicants respectfully submit that claim 32 is allowable, and request that the rejection of claim 32 be withdrawn.

E. Whether claim 34 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee, Andersson and Jang et al. (U.S. Pub. No. 2002/0173316), hereinafter referred to as "Jang."

Claim 34 includes the same limitations as cited for claim 1 with regard to Choi and Lee, and should be allowed for the reasons stated above. Further, claim 34 also recites a second processor and detecting an overload condition based on "the type of application running on the base station, and wherein each type is associated with at least one of the parameters." These limitations are not shown nor suggested in Andersson or Jang, either individually or combined.

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Accordingly, Applicants respectfully submit that claim 34 is allowable, and request that the rejection of claim 34 be withdrawn.

F. Whether claim 37 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee, Andersson, Gandhi, and Laakso (U.S. Pub. No. 2003/0003921 A1).

Claim 37 includes the same limitations as cited for claim 1 with regard to Choi and Lee, and should be allowed for the reasons stated above. Further, claim 37 also recites a second processor and detecting an overload condition based on receiver stability, function of transmission power requirements for the transmitter, and a third one of the parameters is a function of loading on the second processor. These limitations are not shown nor suggested in Andersson, Gandhi or Laakso, either individually or combined.

Accordingly, Applicants respectfully submit that claim 37 is allowable, and request that the rejection of claim 37 be withdrawn.

G. Whether claim 38 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee, Gandhi, Andersson, Laakso, and Padovani (U.S. Pat. App. No. 6,442,398).

Claim 38 depends from claim 37. Accordingly, Applicants respectfully request that the rejection of claim 38 be withdrawn for at least the same reasons as those presented above in relation to claim 37.

H. Whether claim 10 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee and Padovani.

Claim 10 depends from claim 1. Accordingly, Applicants respectfully request that the rejection of claim 10 be withdrawn for at least the same reasons as those presented above in relation to claim 1.

I. Whether claims 2, 3, 22, and 45-46 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee and Gandhi.

Claims 2, 3, 22 and 45-46 depend from claim 1. Accordingly, Applicants respectfully request that the rejection of claims 2, 3, 22 and 45-46 be withdrawn for at least the same reasons as those presented above in relation to claim 1.

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J. Whether claims 4, 5, 24, and 25 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee, Gandhi and Lee (U.S. Pub. No. 2003/0125068 A1), hereinafter Lee '068.

Claims 4 and 5 ultimately depend from claim 1, while claims 24 and 25 ultimately depend on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 4, 5, 24, and 25 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

K. Whether claims 7-9 and 26-28 are unpatentable under 35 U.S.C. §103(a) over Choi, in views of Lee and Laakso.

Claims 7-9 ultimately depend from claim 1, while claims 26-28 ultimately depend on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 7-9 and 26-28 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

L. Whether claims 12 and 30 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee, and Volfsun et al. (U.S. Pat. App. No. 6,707,792 B1), hereinafter referred to as "Volfsun."

Claim 12 ultimately depends from claim 1, while claim 30 ultimately depends on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 12 and 30 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

M. Whether claims 15 and 35 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee, Gandhi, and Laakso.

Claim 15 ultimately depends from claim 1, while claim 35 ultimately depends on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 15 and 35 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

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N. Whether claims 16 and 36 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee, Gandhi, Laakso and Padovani.

Claim 16 ultimately depends from claim 1, while claim 36 ultimately depends on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 16 and 36 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

O. Whether claim 18 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee and Bender.

Claim 18 depends from claim 1. Accordingly, Applicants respectfully request that the rejection of claim 18 be withdrawn for at least the same reasons as those presented above in relation to claim 1.

P. Whether claim 20 stands rejected under 35 U.S.C. §103(a) over Choi in views of Lee, Bender, Kim and Katoh, et al. (U.S. Pat. App. No. 5,949,757), hereinafter referred to as "Katoh."

Claim 20 depends from claim 6. Accordingly, Applicants respectfully request that the rejection of claim 20 be withdrawn for at least the same reasons as those presented above in relation to claim 6.

Q. Whether claims 41 and 42 are unpatentable under 35 U.S.C. §103(a) over Choi in views of Lee and Lin, et al. (U.S. Pat. App. No. 5,917,806), hereinafter referred to as "Lin."

Claim 41 ultimately depends from claim 1, while claim 42 ultimately depends on claim 21. Accordingly, Applicants respectfully request that the rejection of claims 41 and 42 be withdrawn for at least the same reasons as those presented above in relation to claims 1 and 21, respectively.

IX. Conclusion

In view of the foregoing reasons and authorities, Appellants respectfully submit that the rejection of claims 1-16 and 18-46 is improper and a reversal of the Examiner by the Board is required. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is

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hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 01-2300 and please credit any excess fees to such deposit account.

Date:

5/15/09

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 658-2752
Facsimile: (858) 658-2502

Respectfully submitted,

By:


Eric Ho

Registration No. 39,711

Appendix - Claims Involved in the Appeal

Please amend the claims as follows:

1. An apparatus for communications, comprising:
means for communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;
means for monitoring a plurality of parameters each relating to the load on the base station;
means for detecting an overload as a result of one of the parameters crossing a threshold;
and
means for implementing a plurality of control mechanisms to reduce the load on the base station, wherein the control mechanism used to reduce the load on the base station is selected based on a plurality of types and a degree of the overload on the base station; and wherein each type is associated with at least one of the parameters.
2. The apparatus of claim 1 wherein one of the parameters comprises receiver stability at the base station, and the overload is detected as a result of a receiver stability estimate exceeding the threshold for a period of time.
3. The apparatus of claim 2 wherein the receiver stability estimate comprises a riseover-thermal.
4. The apparatus of claim 3 further comprising means for generating power control commands for each of the communication devices, and adjusting the threshold as a function of the power control commands.

5. The apparatus of claim 4 further comprising means for monitoring the communications from each of the communication devices to detect errors, and wherein the adjustment of the threshold is further a function of the detected errors.

6. An apparatus for communications, comprising:
means for communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;
means for monitoring a plurality of parameters each relating to the load on the base station, wherein one of the parameters comprises receiver stability at the base station;
means for detecting an overload as a result of one of the parameters crossing a threshold, wherein the overload is detected as a result of a receiver stability estimate exceeding the threshold for a period of time;
means for detecting a second degree overload as a result of the receiver stability estimate exceeding the threshold for a second period of time longer than a first period of time; and
means for implementing a plurality of control mechanism to reduce the load on the base station, wherein the control mechanism used to reduce the load on the base station is selected based on a plurality types and the degree of the overload on the base station; and wherein each type is associated with at least one of the parameters.

7. The apparatus of claim 1 wherein one of the parameters comprises transmission power requirements for a base station transmitter, the transmission power requirements being derived from feedback from the communication devices.

8. The apparatus of claim 7 wherein the transmission power requirements comprise transmission power requirements for a plurality of reverse power control (RPC) channels, each of the RPC channels being assigned to one of the communication devices.

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9. The apparatus of claim 7 wherein the overload is detected as a result of the transmission power requirements exceeding a maximum transmission power capability of the base station transmitter.

10. The apparatus of claim 1 wherein one of the parameters comprises a number of the communication devices in communication with the base station.

11. An apparatus for communications, comprising:
means for communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;
means for monitoring a plurality of parameters each relating to the load on the base station;
means for detecting an overload as a result of one of the parameters crossing a threshold;
means for detecting a second type of overload as a result of a second one of the parameters crossing a second threshold; and
means for implementing a plurality of control mechanisms to reduce the load on the base station, wherein the control mechanism used to reduce the load on the base station is selected based on the type and a degree of the overload on the base station; and wherein each type is associated with at least one of the parameters.

12. The apparatus of claim 1 further comprising means for detecting a second degree overload as a result of said one of the parameters crossing a second threshold.

13. The apparatus of claim 1 wherein one of the parameters comprises loading on processing resources used for communication with the communication devices.

14. The apparatus of claim 1 wherein one of the parameters comprises receiver stability at the base station, base station transmission power requirements derived from feedback from the

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communication devices, or loading on processing resources used for communication with the communication devices.

15. The apparatus of claim 1 wherein one of the parameters comprises receiver stability at the base station, wherein a second one of the parameters comprises base station transmission power requirements derived from feedback from the communication devices, and wherein a third one of the parameters comprises loading on processing resources used for communication with the communication devices.

16. The apparatus of claim 15 wherein a fourth one of the parameters comprises a number of the communication devices in communication with the base station.

17. (Canceled)

18. The apparatus as in claim 1, wherein one of the means for implementing a control mechanism comprises:

- means for determining idle users; and
- means for bumping service to idle users.

19. An apparatus for communications, comprising:

- means for communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;
- means for monitoring a plurality of parameters each relating to the load on the base station;
- means for detecting an overload as a result of one of the parameters crossing a threshold;
- and
- means for implementing a plurality of control mechanisms to reduce the load on the base station, wherein the control mechanism used to reduce the load on the base station is selected

based on a plurality of types and a degree of the load on the base station, and wherein each type is associated with at least one of the parameters, the control mechanisms comprising:

- means for determining idle users;
- means for bumping service to idle users;
- means for determining high data users; and
- means for bumping service to high data users.

20. The apparatus as in claim 19, wherein the means for implementing a control mechanism further comprises:

- means for determining a first group of users having transferred a first amount of data; and
- means for bumping service to the first group of users.

21. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

- a processor configured to monitor a plurality of parameters each relating to the load on the base station, and to detect an overload as a result of one of the parameters crossing a threshold, and to reduce the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station; and wherein each type is associated with at least one of the parameters.

22. The base station of claim 21 further comprising a receiver, and wherein one of the parameters is a function of receiver stability, the processor being further configured to detect the overload as a result of a receiver stability estimate exceeding the threshold for a period of time.

23. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

- a receiver; and
- a processor configured to monitor a plurality of parameters each relating to the load on the base station, wherein one of the parameters is a function of receiver stability, and to detect an

overload as a result of one of the parameters crossing a threshold, the processor being further configured to detect the overload as a result of a receiver stability estimate exceeding the threshold for a period of time, wherein the processor is further configured to detect a second degree overload as a result of the receiver capacity exceeding the threshold for a second period of time longer than the first period of time, wherein the processor is further configured to reduce the load on the base station using a plurality of control mechanisms based on a plurality types and a degree of the load on the base station; and wherein each type is associated with at least one of the parameters.

24. The base station of claim 22 wherein the processor is further configured to generate power control commands for each of the communication devices, and adjust the threshold as a function of the power control commands.

25. The base station of claim 24 wherein the processor is further configured to monitor communications from the communication devices to detect errors, and wherein the adjustment of the threshold by the processor is further a function of the detected errors.

26. The base station of claim 21 further comprising a transmitter, and wherein one of the parameters is a function of the transmission power requirements for the transmitter, the processor being further configured to derive transmission power requirements from feedback from the communication devices.

27. The base station of claim 26 wherein the transmission power requirements comprises transmission power requirements for a plurality of reverse power control (RPC) channels, each of the RPC channels being assigned to one of the communication devices.

28. The base station of claim 26 wherein the processor is further configured to detect the overload as a result of the transmission power requirements exceeding a maximum transmission power capability of the transmitter.

29. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

a processor configured to monitor a plurality of parameters each relating to the load on the base station, and to detect an overload as a result of one of the parameters crossing a threshold, wherein the processor is further configured to detect a second type overload as a result of a second one of the parameters crossing a second threshold wherein the processor is further configured to reduce the load on the base station using a plurality of control mechanisms based on the type and a degree of the load on the base station; and wherein each type is associated with at least one of the parameters.

30. The base station of claim 21 wherein the processor is further configured to detect a second degree overload as a result of the one of the parameters crossing a second threshold.

31. The base station of claim 21 wherein the processor is further configured to support communications with the communication devices, and wherein one of the parameters is a function of loading on the processor.

32. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

a processor configured to monitor a plurality of parameters each relating to the load on the base station, and to detect an overload as a result of one of the parameters crossing a threshold, wherein the processor is further configured to reduce the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station, and wherein each type is associated with at least one of the parameters; and

a second processor configured to support communications with the communication devices, wherein one of the parameters is a function of loading on the second processor, wherein the second processor is further configured to reduce the load on the base station using a plurality of control mechanisms based on the type and degree of the overload on the base station.

33. The base station of claim 21 further comprising a receiver and transmitter, and wherein the processor is further configured to support communications with the communication devices, and wherein one of the parameters is a function of receiver stability, transmission power requirements for the transmitter, or loading on the processor.

34. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

a processor configured to monitor a plurality of parameters each relating to the load on the base station, and to detect an overload as a result of one of the parameters crossing a threshold, and to reduce the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station, and the type of application running on the base station, and wherein each type is associated with at least one of the parameters; and

a receiver, transmitter, and second processor configured to support communications with the communication devices, wherein one of the parameters is a function of receiver stability, transmission power requirements for the transmitter, or loading on the second processor.

35. The base station of claim 21 further comprising a receiver and transmitter, and wherein the processor is further configured to support communications with the communication devices, and wherein one of the parameters is a function of receiver stability, a second one of the parameters is a function of transmission power requirements for the transmitter, and a third one of the parameters is a function of loading on the processor.

36. The base station of claim 35 wherein a fourth one of the parameters is a function of the number of communication devices in communication with the base station.

37. A base station configured to support communications with a plurality of communication devices, the communications placing a load on the base station, the base station comprising:

a processor configured to monitor a plurality of parameters each relating to the load on the base station, and to detect an overload as a result of one of the parameters crossing a threshold, and to reduce the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station, and wherein each type is associated with at least one of the parameters; and

a receiver, transmitter, and second processor configured to support communications with the communication devices, wherein one of the parameters is a function of receiver stability, a second one of the parameters is a function of transmission power requirements for the transmitter, and a third one of the parameters is a function of loading on the second processor.

38. The base station of claim 37 wherein a fourth one of the parameters is a function of the number of communication devices in communication with the base station.

39. A method for communications, comprising:

communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;

monitoring a plurality of parameters each relating to the load on the base station;
detecting an overload as a result of one of the parameters crossing a threshold; and

reducing the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station, and wherein each type is associated with at least one of the parameters.

40. A computer-program product comprising a computer-readable medium having instructions thereon, the instructions comprising:

code for communicating, from a base station, with a plurality of communication devices, the communications placing a load on the base station;

code for monitoring a plurality of parameters each relating to the load on the base station;
code for detecting an overload as a result of one of the parameters crossing a threshold;

code for detecting an early time period, wherein the early time period occurs before the overload is detected; and

code for reducing the load on the base station using a plurality of control mechanisms based on a plurality of types and a degree of the overload on the base station, and wherein each type is associated with at least one of the parameters.

41. The apparatus of Claim 1, further comprising:

means for detecting an early time period, wherein the early time period occurs before the overload is detected; and

wherein the plurality of control mechanisms are also implemented during the early time period.

42. The base station of Claim 21, the processor further configured to detect an early time period, wherein the early time period occurs before the overload is detected, wherein the plurality of control mechanisms are also implemented during the early time period.

43. The apparatus of Claim 1, wherein means for detecting an overload as a result of one of the parameters crossing a threshold is for an entire period of time.

44. The base station of Claim 21, wherein the processor configured to detect an overload as a result of one of the parameters crossing a threshold is for an entire period of time.

45. The apparatus of Claim 1, wherein the plurality of types comprises a type indicating high rise-over thermal condition or a type indicating lack of power.

46. The base station of Claim 21, wherein the plurality of types comprises a type indicating high rise-over thermal condition or a type indicating lack of power.